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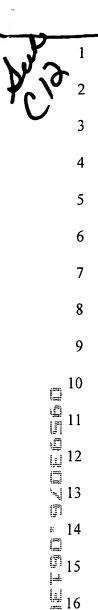
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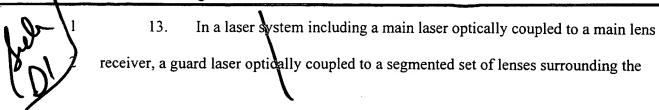
CLAIMS

		02.12.1.20
	1	1. A laser system comprising:
((2)	(a) a laser generating a main beam;
	3	(b) a guard band aser arranged concentric to the main laser and generating a
	4	guard band beam;
	5	(c) a receiver for receiving the guard band beam;
	6	(d) a trigger circuit coupled to the guard band receiver, the trigger circuit
	7	generating a signal upon interruption of the guard band; and
	8	(e) means responsive to the trigger circuit for altering the performance of the mair
	9	beam upon interruption of the guard band beam.
	1	2. The laser system of Claim 1 wherein the guard band laser is an annular
	2	laser.
	1	3. The laser system of Claim 1 wherein the guard band laser is a set of lasers
	2	arranged concentric to the laser.
	7	4. A laser system having improved signal continuity and safety, comprising:
	16/	(a) a laser including an energy source and optical surface in a chamber coupled to
	/3	an energy pump and providing a laser beam;
	4	(b) a guard laser concentric with the laser including an energy source and an
	5	optical surface in a chamber coupled to an energy pump and providing a guard beam
	6	surrounding the laser beam as a protective layer;
	7	(c) a receiver comprising a central lens for receiving the laser beam and coupled
	8	to a main receiver;

(d) an annular, segmented set of mirrors and lenses surrounding the central lens as 9 a set of parallel receivers for receiving the guard laser beam; 10 (e) a trigger circuit connected to the set of parallel receivers for generating a 11 signal upon interruption of the guard beam; and 12 (f) means responsive to the trigger circuit for altering the laser beam upon 13 interruption of the guard beam. 14 5. 1 The laser system of Claim 4 further comprising: sensor means coupled to the trigger circuit for detecting climatic conditions and preventing shutdown of the main laser. The laser system of Claim 4 further comprising: 6. a return signal laser responding to guard band interruptions as sensed by the trigger circuit and generating a return signal to shut down or modify the signal level of the laser beam. The laser system of Claim 4 further comprising: a buffer circuit for storing ar input signal to the laser prior to shutdown. The laser system of Claim 4 wherein the guard beam is coaxially aligned 8. with the laser beam. 9. The laser system of Claim 4 wherein the guard beam is aligned and cone 2 shaped with respect to the laser beam. 1 10. The laser system of Claim 4 wherein the laser is a continuous wave laser. The laser system of Claim 4 wherein the guard laser is a pulsed laser. 1 11.



- A laser system having improved signal continuity and safety, comprising: 12.
- (a) a continuous wave laser including an energy source and optical surface in a chamber coupled to an energy pump and providing a laser beam;
- (b) a pulsed guard laser concentric with the laser including an energy source and an optical surface in a chamber coupled to an energy pump and providing a coaxially aligned guard beam surrounding the laser beam as a protective layer;
- (c) a receiver comprising a central lens for receiving the laser beam and coupled to a main receiver;
- (d) an annular, segmented set of mirrors and lenses surrounding the central lens as a set of parallel receivers for receiving the guard laser beam;
- (e) a trigger circuit connected to the set of parallel receivers for generating a trigger signal upon interruption of the guard beam;
- (f) a return laser circuit means responsive to the trigger circuit for altering the performance of laser beam upon interruption of the guard beam;
- (g) a buffer circuit coupled to the return laser circuit means for storing an input signal to the laser, prior to shutdown;
- (h) means for discharging the buffer circuit to the laser upon termination of the trigger signal; and
- 19 (i) means for sensing climatic conditions affecting the guard beam and preventing shutdown of the laser.



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- main lens and serving as parallel receivers for the guard laser, a method of providing 3 improved signal continuity and safety for the main laser, comprising the steps of: 4 5 (a) transmitting a laser beam from the main laser to the main lens; 6 (b) transmitting and coaxially aligning a guard beam with the main laser beam 7 as a protective layer surrounding the main laser beam; 8 (c) receiving the main laser beam in the main lens; 9 (d) receiving the guard beam in the segmented set of parallel receivers; 10 (e) detecting an interruption in the protective layer by the set of parallel 11 receivers; 12 generating a signal in response to the interruption of the protective layer; (f) 13 and altering the performance of the main laser beam in response to the 14 (g) <u>ا</u> 15 generated signal. The method of Claim 13 further comprising the step of: 1 14.

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- generating signals indicative of climatic conditions affecting the low
- 3 power beam; and
 - (i) preventing the termination of the main laser beam in response to such
- 5 climatic conditions.
 - 15. The method of Claim 13 further comprising the step of:
- 2 (j) coupling a return laser to the generated signal for altering the performance
- 3 including shutdown of the main laser in response to the generated signal.

The method of Claim 13 further comprising the step of:

(q)

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restoring the laser beam when the laser beam is re-directed into the area.